EAGLE

EVR-100

VHF Radio
Operation Instructions

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For free owner's manuals and the most current information on this product, its operation and accessories, visit our web site: www.eaglesonar.com

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IMPORTANT SAFETY INFORMATION	
Please read carefully before installation and use.	
DANGER	This is the safety alert symbol. It is used to alert you to potential personal injury hazards, Obey all safety messages that follow this symbol to avoidpossible injury or death.
⚠WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury
⚠CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
CAUTION	CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

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Introduction

Congratulations on your purchase of an Eagle EVR-100 marine band VHF radio. Designed for international operation, allows you to transmit and receive on all international channels in the VHF marine band, as assigned by the International Union (ITU). The EVR-100 is approved with commercial-grade standards to give you clear, reliable communication.

NOTE: According to WEEE regulations, the user should not dispose the product when damaged, but rather send it back to Eagle for disposal. Refer to **How to Obtain Service** section for instructions to contact Eagle.

Your radio has the following features:

- Prominent channel display
- Keypad and LCD backlighting for easy night-time use
- Waterproof and submersible to comply with JIS-7
- Choice of High or Low (7 W or 1 W) transmission power
- Top centered PTT button for comfortable left- or right-handed use
- Powerful 4 W external audio output
- Access to all currently-available marine VHF channel bands (USA, Canada, International) including Weather channels where available
- Special CH16/9 key for quick access to the priority (international distress) channel
- Special 3CH key to select your three favorite channels
- Weather alert facility where available
- Squelch Adjustment to help eliminate noise between transmissions
- Battery Level - displays the battery voltage

Installation

This Eagle radio allows you to make a maritime distress call to facilitate search and rescue. To be effective as a safety device, this radio must be used only within the geographic range of a shore-based VHF marine Channel 16 distress and safety watch system. The geographic range may vary but under normal conditions is approximately 20 nautical miles.

Installation Options

There are two ways to install the radio. You can choose:

- *a deck or overhead mounted gimbal installation*. The reversible mounting gimbal is fixed to to a suitable site and the radio is placed into it. The radio can be removed for storage and the viewing angle can be adjusted.
- *a recessed installation*. The radio is recessed into a cavity cut into a bulkhead. The radio fixture is permanent and the viewing angle cannot be adjusted.

Location Requirements

Please check these BEFORE doing any cutting or drilling.

Whichever installation method you choose, ensure that the chosen location:

- is at least 3' (1 m) from the antenna
- allows easy connection to (at least) a 10 Amp fused 13.6 V DC electrical source and the antenna
- is at least 1.5' (45 cms) from the compass to avoid creating magnetic deviation of the compass during radio operation
- has a suitable space close by for installing the microphone bulkhead mount
- provides easy access to the controls on the front panel
- provides reasonable access to the wiring at the back of the radio

The VHF has a large LCD screen with an optimum viewing angle of approx. +/-20 deg. Ensure the chosen location provides a suitable view of the display. Ideally, the user should be directly in front of the display or no more than +/-20 deg from the front of the display.

Note: If unsure, temporarily power up the radio and check for a suitable location.
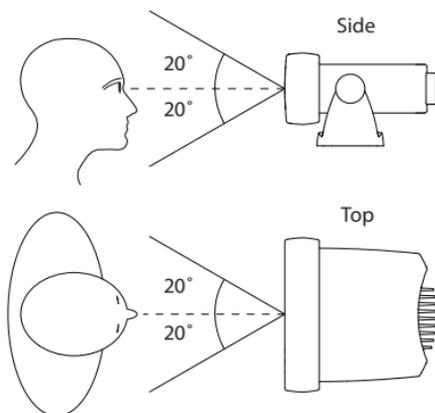
Checklist

The following items should be supplied in the box. Check before starting the installation and contact your dealer if an item is missing.

NOTE: An antenna is NOT provided. Consult your Eagle dealer for advice if necessary.

1. Mounting gimbal for the VHF radio
2. Power supply cable with inbuilt 3 Amp fuse
3. External speaker connection cable with white (+) wire and black (-) wire
4. Two mounting knobs
5. Microphone bulkhead mount
6. Four self-tapping screws for the mounting gimbal
7. Four flat screws for the mounting gimbal
8. Four spring washers for the mounting gimbal
9. Four plain washers for the mounting gimbal
10. Four nuts for the mounting gimbal
11. Two self-tapping screws for the microphone bulkhead mount
12. Two flat screws for the microphone bulkhead mount

13. Two spring washers for the microphone bulkhead mount
14. Two plain washers for the microphone bulkhead mount
15. Two nuts for the microphone bulkhead mount
16. Two flush-mount brackets for recessed installation
17. Two M5x32 screws for recessedinstallation
18. Two M5x10 screws for recessed installation
19. Two plastic stoppers for the recessed installation (not pictured)
20. Installation template (not pictured)
21. One 3 Amp spare fuse (not pictured) in case of accidental reverse of battery polarity
22. Base unit and microphone (not pictured)
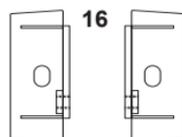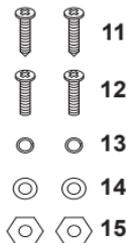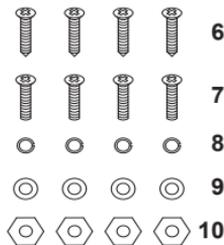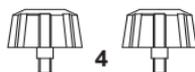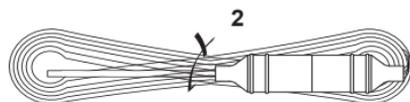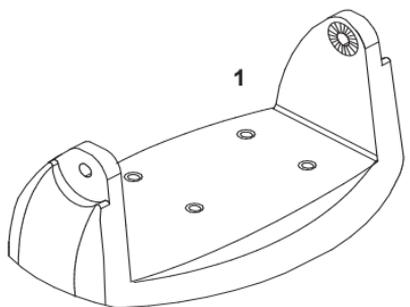
Gimbal Installation

1. Hold the mounting gimbal at the chosen location and use a soft pencil to mark the screw hole positions onto the mounting surface.
2. If you can't reach behind the mounting surface to attach the nuts, use the self-tapping screws instead of the flat screws shown in the picture. If you're drilling into fiberglass, use a drill bit smaller than 3/16" (5mm) to drill the pilot holes.

   Otherwise, drill the four screw holes where marked, using a 3/16" (5mm) drill bit. Drill completely through the mounting surface.
3. Use a Philips screwdriver and the set of four flat screws, spring washers, plain washers, and nuts to attach the mounting gimbal to the location site.
4. Slide the radio into the mounting gimbal.
5. Insert the two mounting knobs through the holes and tighten them sufficiently to hold the radio at the desired viewing angle.
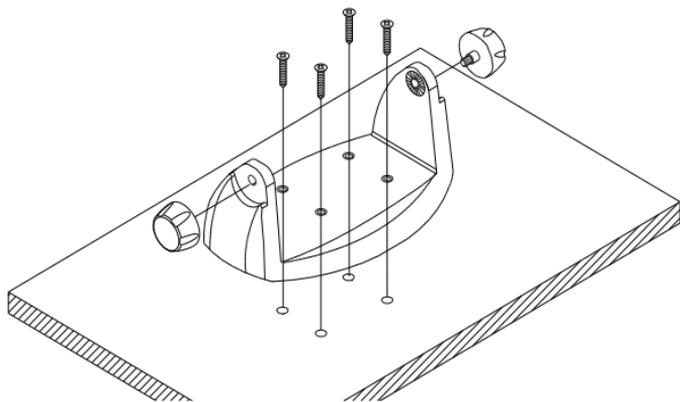
Change the Viewing Angle

The viewing angle on the gimbal mount has a 20º tilt range. To change the current viewing angle on the gimbal mount:

1. Support the radio, then cautiously loosen the mounting knobs until the radio can be moved.
2. Re-position the radio then tighten the mounting knobs again.

Recessed Installation

1. Tape the installation template onto the chosen location site.
2. Cut out the area marked by the solid dark line. (The dashed line indicates the total area that will be ed by the radio fascia after installation.)
3. Remove the installation template and slide the radio into the cavity.
4. Working from the rear of the bulkhead, align the racheted outstand on each side of the radio with the central hole in each mounting bracket.

5. Use the two short M5x10 screws to screw the mounting brackets to the sides of the radio.

6. Screw each M5x32 screw through the screw hole in the mounting bracket, then attach the stopper. If your bulkhead exceeds 0.51" (13mm), the stopper can be discarded if necessary.

7. Tighten the M5x32 screws until the radio is held firmly against the rear of the bulkhead.
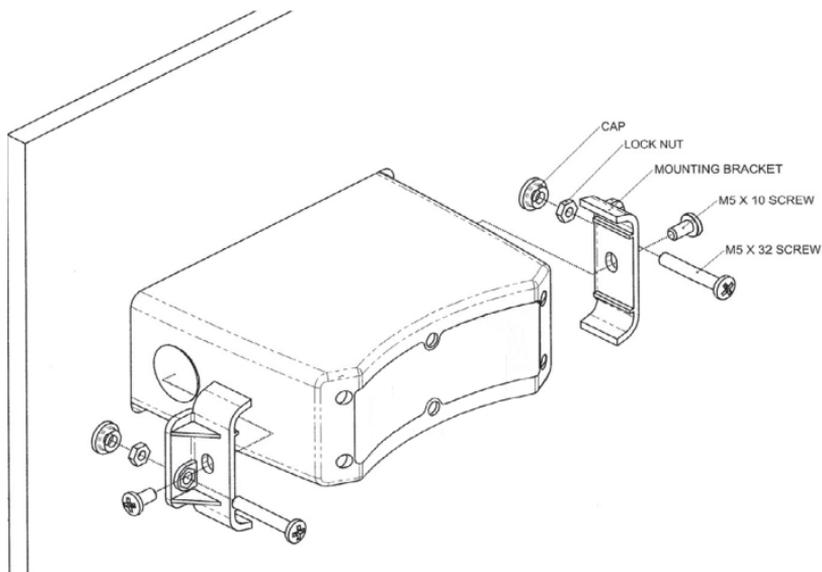
Install the Microphone Bulkhead Mount

1. Hold the microphone bulkhead mount at the chosen location and use a soft pencil to mark the screw hole positions on the mounting surface.
    Ensure that the microphone curly cable will comfortably reach this location BEFORE you drill.

2. Drill the two pilot screw holes where marked.

3. Use a short length Philips screwdriver and the set of two flat screws, spring washers, plain washers, and nuts to secure the microphone bulkhead mount at the location site.

4. Hang the microphone on its mount.
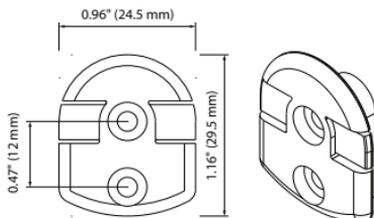
Connect the Radio Cables

The connectors are on the rear of the base unit, as follows:

1. **External Speaker connector.** Plug the external speaker cable jack into the connector BEFORE powering on the radio. Use a 4 Ohm 4 Watt external speaker.

2. **RED Power wire**. Connect this to the POSITIVE (+) battery terminal. Check that a 3 Amp fuse is installed on this power cable close to the battery.

3. **BLACK Power wire**. Connect this to the NEGATIVE (-) battery terminal.

4. **ANT**. A radio antenna is not supplied. A suitable radio antenna must be mounted and connected before operating the EVR-100 radio. Consult your dealer for advice if necessary.

5. **GND**. A ground connection is not usually required.

External
speaker

VHF Antenna

External speaker
connection
cable

Antenna connection cable

BLACK
power
cable

Fuse
on RED
power
cable

+ Battery **−**

Base unit
with microphone*
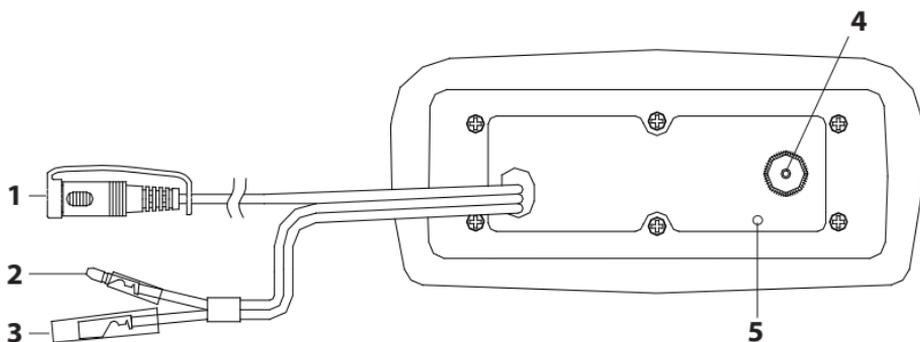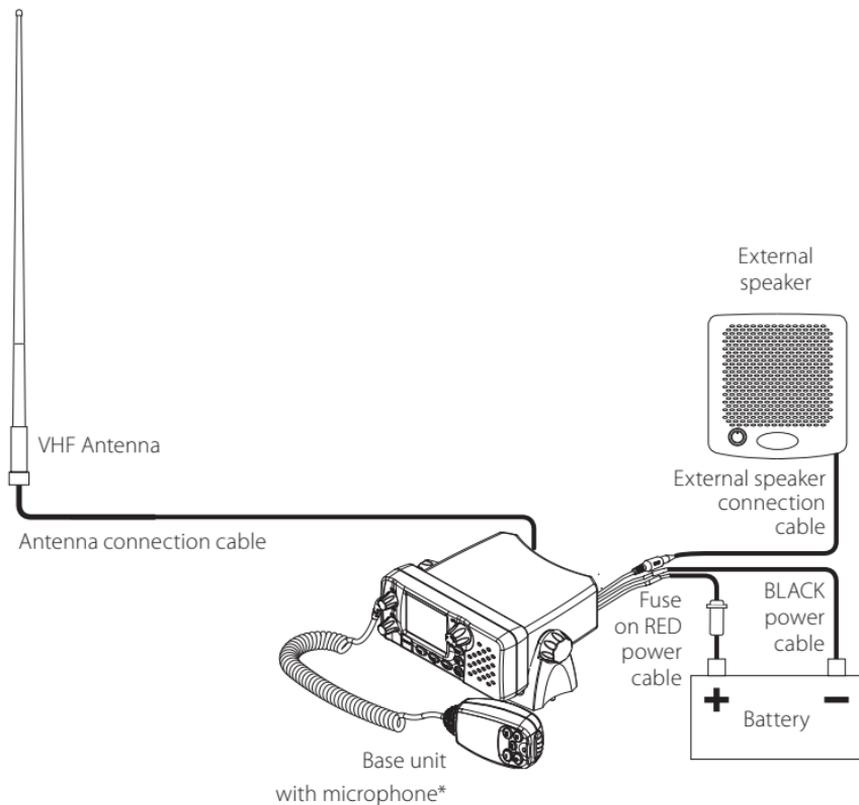
* Actual model may differ from that shown

Display

LCD symbols and Meanings
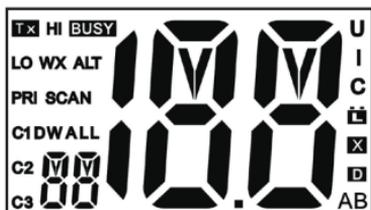
Symbol	Meaning
TX	Transmitting.
HI LO	Transmission power. High (HI) 7W or Low (LO) 1W.
BUSY	Receiver busy with an incoming signal.
WX	Weather channel.
WX ALT	Weather Alert. Alarm beeps will sound.
PRI	Priority channel is selected.
SCAN	Scanning channels.
DW	Dual Watch mode.
ALL	ALL channels scan mode.
C1 C2 C3	Shows which of the 3 favourite channels, if any, are selected, otherwise, blank.
88 (small)	
188 (large)	Channel selected.
UIC	Selected Channel bank for VHF radio operations and regulations (USA, International, Canada)
Ŀ	Low Battery warning (activates at 10.5V)
X	Channel is temporarily deleted from the ALL SCAN operation. D Indicates a Duplex channel is selected, otherwise, blank for Simplex operation.
A B	Channel suffix, if applicable.
D	Duplex operation, otherwise, blank for simplex operation.

Basic Operation and Key Functions

Key	Function
VOL/PWR	**Volume and Power.** Turn clockwise to power on. Continue to turn until a comfortable volume is reached. VOL/PWR will also adjust the settings of an external speaker, if connected
SQL	**Squelch or Threshold Level**. Sets the threshold level for the minimum receiver signal. Turn fully counterclockwise until random noise is heard, then turn slowly clockwise until the random noise disappears. Make another 1/4 turn clockwise for best reception in open sea conditions.
16/9	**Priority Channel.** Also on the microphone. Press to cancel all other modes and to tune into the priority channel. Press again to return to your original channel.
	The default is Channel 16. To make Channel 09 the priority channel, hold down 16/9 until a beep sounds and 09 is displayed.
WX	**Weather Channel**. In USA and Canadian waters, press to hear the most recently selected weather station. The WX symbol is displayed on the LCD.
	Press **+ CH -** to change to a different weather channel. Press WX again to return to the most recent channel.
	If the weather alert mode (ALT) is ON and an alert tone of 1050Hz is broadcast from the weather station, it is picked up automatically and the alarm sounds. Press any key to hear the weather alert voice message.
UIC	**Channel Bank**. Press to toggle between USA, International or Canadian channel banks. The selected channel bank is displayed on the LCD along with the last used channel. All the channel charts are shown in Appendix.
3CH +/-	**Three Favourite Channels**. Also on the microphone. Press to toggle between your favourite channels. The C1, C2, or C3 symbol appears on the LCD to show which favourite channel is selected.

To scan only one of your favourite channels, press 3CH then immediately press and release SCAN. If you want to scan all three favourite channels, press 3CH then immediately press and hold SCAN.

To add a favourite channel for the first time, select that channel then hold 3CH to store it in the CH1 location. Repeat the procedure to store two more favourite channels in the CH2 and CH3 locations respectively.

If you try and add another favourite channel it will overwrite the existing CH1. CH2 and CH3 remain unless you delete them.

To delete a favourite channel, select that channel then hold down 3CH until the C1, C2 or C3 symbol disappears on the LCD.

SCAN   **Scan**. Press to scan between your current channel and the priority channel in DUAL WATCH mode. The weather channel is also scanned if the weather alert mode (ALT) is ON.

Hold down SCAN to enter ALL SCAN mode where the priority channel is checked every 1.5 seconds.

When a signal is received, scanning stops at that channel and BUSY appears on the screen. If the signal ceases for more than 3 seconds, the scan restarts.

Press **SKIP** to temporarily skip over an "always busy" channel when in ALL SCAN mode and resume the scan. An ☒ is shown on the screen to designate a skipped channel. Note that it is not possible to skip over the priority channel.

Press SCAN again to stop at the current channel.

+ CH -   **Channel Select**. Also on the microphone. The current channel is shown on the screen in BIG digits with an appropriate designator suffix A or B in small letters below the channel number.

Press + CH - to step through the available channels one at a time, or hold down to scroll rapidly through all the available channels. See Appendix for a listing of channel charts.

☀/🔋   **Backlight switch.** Press to turn on the backlighting, press again to turn off

Battery Level Check. Press to display the battery voltage level. The battery voltage level will be displayed for 5 seconds before returning back to the previous screen.

SKIP   **Remove from ALL scan.** Press to temporarily remove (SKIP) the channel from ALL SCAN. The channel will be marked with an ☒. Press again to cancel the channel SKIP.

H/L   **Transmission Power.** On the microphone ONLY. High (HI) 7W or Low (LO) 1W. Press to toggle between high or low transmission power for the entire channel bank. The HI or LO selection is shown on the LCD.

Some channels allow only low power transmissions. Error beeps will sound if the power transmission setting is incorrect.

Some channels allow only low power transmissions initially, but can be changed to high power by holding down H/L and PTT at the same time. See Appendix for a complete listing of channel charts.

PTT   **Push To Talk**. On the microphone ONLY. Push to start transmitting.

Radio Operation

Turning Your Radio On/Off

Rotate **VOL/PWR** knob to turn the radio on or off. Rotate to adjust the volume to a comfortable level.

Adjusting Squelch

Squelch is used to eliminate static and background noise and allows for silent operation of your radio until a transmission is received. If the squelch is too high, only the strongest transmissions can be heard, and when too low, intermittent static and noise are heard.

To set Squelch:

1. Turn **SQL** knob fully counter-clockwise. You will hear a lot of static noise.

2. Then turn **SQL** knob clockwise slowely until the static noise stops, this is the correct position for the **SQL** knob.

Selecting High/Low Power

Press and release the **H/L** key on the microphone to toggle the transmit power between high and low. When the unit is operating at low power, "Lo" appears on LCD and "Hi" appears on LCD when operating at high power.

Some channels allow only low power transmissions. Error beeps will sound if the power transmission setting is incorrect. Some channels allow only low power transmissions initially, but can be changed to high power by holding down H/L and PTT at the same time. See Appendix for a complete listing of channel charts.

Selecting Channels

To select a channel:

Use the **+ CH** - key to find a channel. Stop when you find the desired channel.

NOTE: Not all channel numbers are available in INT bands, see marine Channel charts at the back of this manual.

Transmitting and Receiving

Press and hold the Push-To-Talk (PTT) key to transmit on the selected channel, then release to receive. The TX indicator appears while transmitting.

Scanning Features

Your radio is equipped with 2 types of scan options: All Scan, 3CH Scan (Favourite Channel Scan). If there are no channels added as favourite channels, the default is All Scan. This function automatically searches for transmissions on the channel being scanned. If a signal is received, the scan stops on the receiving channel as long as it is present and the SCAN indicator flashes. If the signal is lost for 3 seconds, the radio resumes scanning.

All Scan

Press and hold the **SCAN** key for 3 seconds to activate the All Scan function. The SCAN and ALL indicator appears on the LCD during All Scan. In All Scan mode, all channels in the channel set are scanned in sequence except the channel set as SKIP channel using SKIP function. After the last channel number has been scanned, the cycle repeats. Press **SCAN** key again to terminate the SCAN mode.

To Skip a channel in ALL scan

Press **SKIP** to temporarily remove (SKIP) the channel from ALL SCAN. The channel will be marked with an X. Press again to cancel the channel SKIP.

3CH Scan (Favourite Channels Scan)

Press **3CH** key when there is at least one favourite channel saved in memory.

Press and hold the **SCAN** key for 3 seconds to start 3CH Scan , the SCAN indicators appear on the LCD. Only the favourite channels and priority channels (CH16) are scanned in sequence.

Your radio can store up to three favourite channels. Quick press of the **3CH** key will access the stored favourite channels directly (shortcut).

To Add Channels to 3CH List

During normal operation mode, use the **+ CH -** keys to select the desired channel for programming.

Press and hold the **3CH** key for 3 seconds. The "C1" icon appears to indicate the current channel has been saved in first favourite channel. Repeat for the second and third favourite channels as C2 and C3 respectively.

To Delete Channels from 3CH List

Select the favourite channel to be deleted using the **+ CH -** keys, or repeated quick press of the **3CH** key. Press and hold the **3CH** key until the "C*n*" icon disappears.

Monitor Modes (Dual Watch)

Quick press the **SCAN** key to activate the Dual Watch mode. The "DW" indicator appears on the LCD. Dual Watch monitors the current working channel and Channel 16 in sequence. WX ALT is also scanned in this mode if set. The watch is halted when activity is detected on a monitored channel. Press **SCAN** key or **PTT** to terminate Dual Watch and return to the previous working channel.

NOAA Weather Channels

To receive a NOAA (National Oceanic and Atmospheric Administration) weather channel, press the **WX** key. The transceiver will go to the last selected weather channel.

Press the **+ CH** - keys to scroll through the available WX channels.

To exit from the NOAA weather channels, press the **WX** key to terminate WX mode and return to the previous working channel, or press **16/9** to access the priority channels.

NOAA Weather Alert

In the event of extreme weather disturbances, such as storms and hurricanes, the NOAA sends a weather alert accompanied by a 1050 Hz tone and subsequent weather report on one of the NOAA weather channels.

When the Weather Alert feature is enabled, your radio is capable of receiving this alert.

In the Weather channel, press and hold **WX** button for 3 seconds to active the Alert function - "ALT" will appear on the LCD. To cancel the alert function, Press and hold **WX** button for 3 seconds again, the "ALT" icon will disappear from the LCD.

Note: If Weather Alert mode is selected (WX ALT icon displayed in WX mode), Weather Alert will continue to be monitored even when in normal mode (non-Wx channels) is selected.

Resetting your Radio

Your radio can be reset to factory defaults. A factory reset clears the following user settings:

- favourite channels,
- current channel,
- channel bank.

To perform the reset:

1. Turn the radio OFF.
2. Simultaneously press and hold the **SCAN** & **UIC** buttons.
3. Continue to hold the keys until "CC" appears on the LCD. Release the keys to finish the reset process. The LCD switches to CH16 and USA channel bank is selected..

Appendix A - Technical Specifications

GENERAL

Power Supply: 13.8V DC.
Current drain:
Transmit   1.5 A at 7 W Tx / 0.6A at 1W Tx
Receive   Less than 250mA in standby
Useable channels: International, USA, Canada, Weather (country specific)
Mode: 16K0G3E (FM)

PHYSICAL

LCD display (viewing):   41(H) x 53(W) mm
Backlight control: Yes (On/Off)
Antenna connector: SO-239 (50 ohm)
Temperature Range: -17ºC to +50ºC
Waterproof: JIS-7
Dimensions: 161(W) x 75(H) x 147(D) mm - without bracket
Weight: 0.87kg with microphone
Frequency stability: +/- 10ppm
Frequency control: PLL
GPS/NMEA input: No
Comm port: n/a
DSC: No

FEATURES

Flush Mount kit: Yes
Local/Distant control: No
Position polling: No
Group Call: No
Channel Naming: No
Dual watch, Favourite
channel scan, All scan: Yes

TRANSMITTER

Frequency: 156.025 - 157.425MHz
Output power: 7 W / 1 W selectable
Transmitter protection: Open / short circuit of antenna
Max Freq deviation: +/- 5kHz
Spurious & harmonics: better than 2.5µ W
Modulation distortion: Less than 4%@ 1kHz for a +/-3kHz deviation

RECEIVER

Frequency: 156.025 - 163.275 MHz
12dB SINAD sensitivity: 0.25uV
20db SINAD sensitivity: 0.35uV
Adjacent CH selectivity: more than 65db
Spurious response: more than 65 db
Intermodulation Rejection ratio: more than 65 db
Residual Noise level: more than -40 db unsquelched
Audio output power: 2 W (with 8 ohm at 10% distortion)
                                       4 W with 4 ohm external speaker
Compass safe distance: 0.5 m (1.5')

Specifications are subject to change without notice.

Appendix B - Troubleshooting

1. **The transceiver will not power up.**

   A fuse may have blown OR there is no voltage getting to the transceiver.

   a) Check the power cable for cuts, breaks, or squashed sections.

   b) After checking the wiring, replace the 3 Amp fuse (1 spare fuse is supplied).

   c) Check the battery voltage. This must be greater than 10.5V.

2. **The transceiver blows the fuse when the power is switched on.**

   The power wires may have been reversed.

   a) Check that the red wire is connected to the positive battery terminal, and the black wire is connected to the negative battery terminal.

3. **The speaker makes popping or whining noises when the engine is running.**

   Electrical noise may be interfering with the transceiver.

   a) Re-route the power cables away from the engine.

   b) Add a noise suppressor to the power cable.

   c) Use resistive spark plug wires and/or use an alternator whine filter

4. **No sound from the external speaker.**

   a) Check that the external speaker cable is physically connected.

   b) Check the soldering of the external speaker cable.

5. **Transmissions are always on low power, even when high (HI) power is selected.**

   The antenna may be faulty.

   a) Test the transceiver with a different antenna.

   b) Have the antenna checked out.

6. **Battery symbol is displayed.**

   The power supply is too low or too high.

   a) Check the battery voltage. This should be at least 10.5V ± 0.5V DC.

   b) Check the alternator on the vessel.

Appendix C - Frequency Charts

International Channel Chart

CH	TX (MHz)	RX (MHz)	MODE	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	REMARK
01	156.050	160.650	D	Public Correspondence	No	Yes	
02	156.100	160.700	D	Public Correspondence	No	Yes	
03	156.150	160.750	D	Public Correspondence	No	Yes	
04	156.200	160.800	D	Port Operations	No	Yes	
05	156.250	160.850	D	Port Operations, Selected VTS Areas	No	Yes	
06	156.300	156.300	S	Inter-ship Safety	Yes	No	
07	156.350	160.950	D	Port Operations	No	Yes	
08	156.400	156.400	S	Commercial (inter-ship only)	Yes	No	
09	156.450	156.450	S	Recreational Calling Channel	Yes	Yes	
10	156.500	156.500	S	Commercial	Yes	Yes	
11	156.550	156.550	S	Commercial, VTS in Selected Areas	Yes	Yes	
12	156.600	156.600	S	Port Operations, Selected VTS Areas	Yes	Yes	
13	156.650	156.650	S	Inter-ship Navigation Safety (bridge-to-bridge)	Yes	No	
14	156.700	156.700	S	Port Operations, Selected VTS Areas	Yes	Yes	
15	156.750	156.750	S	Port Operations	Yes	Yes	① 1W only
16	156.800	156.800	S	International Distress, Safety, and Calling	Yes	Yes	
17	156.850	156.850	S	State Controlled	Yes	Yes	① 1W only
18	156.900	161.500	D	Port Operations	No	Yes	
19	156.950	161.550	D	Commercial	No	Yes	
20	157.000	161.600	D	Port Operations	No	Yes	
21	157.050	161.650	D	Port Operations	No	Yes	
22	157.100	161.700	D	Port Operations	No	Yes	
23	157.150	161.750	D	Public Correspondence	No	Yes	
24	157.200	161.800	D	Public Correspondence	No	Yes	
25	157.250	161.850	D	Public Correspondence	No	Yes	
26	157.300	161.900	D	Public Correspondence	No	Yes	
27	157.350	161.950	D	Public Correspondence	No	Yes	
28	157.400	162.000	D	Public Correspondence	No	Yes	
60	156.025	160.625	D	Public Correspondence	No	Yes	
61	156.075	160.675	D	Port Operations	No	Yes	
62	156.125	160.725	D	Port Operations	No	Yes	
63	156.175	160.775	D	Port Operations	No	Yes	
64	156.225	160.825	D	Public Correspondence	No	Yes	
65	156.275	160.875	D	Port Operations	No	Yes	

66	156.325	160.925	D	Port Operations	No	Yes	
67	156.375	156.375	S	Commercial, bridge-to-bridge	Yes	No	
68	156.425	156.425	S	Boat Operations, Recreational	Yes	No	
69	156.475	156.475	S	Port Operations	Yes	Yes	
70	156.525	156.525		Digital Selective Calling - DSC	------	------	②
71	156.575	156.575	S	Port Operations	Yes	Yes	
72	156.625	156.625	S	Inter-ship	Yes	No	
73	156.675	156.675	S	Port Operations	Yes	Yes	
74	156.725	156.725	S	Port Operations	Yes	Yes	
77	156.875	156.875	S	Inter-ship	Yes	No	
78	156.925	161.525	D	Non-Commercial	No	Yes	
79	156.975	161.575	D	Commercial	No	Yes	
80	157.025	161.625	D	Commercial	No	Yes	
81	157.075	161.675	D	Port Operations	No	Yes	
82	157.125	161.725	D	Port Operations	No	Yes	
83	157.175	161.775	D	Public Correspondence	No	Yes	
84	157.225	161.825	D	Public Correspondence	No	Yes	
85	157.275	161.875	D	Public Correspondence	No	Yes	
86	157.325	161.925	D	Public Correspondence	No	Yes	
87	157.375	161.975	D	Public Correspondence	No	Yes	
88	157.425	162.025	D	Public Correspondence	No	Yes	

Special Notes on International Channel Usage

①. LOW POWER (1W) only.

②. Channel 70 is designated for use exclusively for Digital Selective Calling (DSC), such as Distress, Safety, and Ship Calls. No voice communication is allowed on CH70. This channel is only available on DSC enabled radios.

Note: The INTERNATIONAL mode is not legal for use in U.S. or Canada waters.

KEY: S = Simplex operating channel; D = Duplex operating channel.

USA Channel Chart

CH	TX (MHz)	RX (MHz)	MODE	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	REMARK
01A	156.050	156.050	S	Port Operations, Selected VTS Areas	Yes	Yes	
03A	156.150	156.150	S	US Government, Coast Guard	Yes	Yes	④
05A	156.250	156.250	S	Port Operations, Selected VTS Areas	Yes	Yes	
06	156.300	156.300	S	Inter-ship Safety	Yes	No	
07A	156.350	156.350	S	Commercial	Yes	Yes	
08	156.400	156.400	S	Commercial (inter-ship only)	Yes	No	
09	156.450	156.450	S	Recreational Calling Channel	Yes	Yes	
10	156.500	156.500	S	Commercial	Yes	Yes	
11	156.550	156.550	S	Commercial, VTS in Selected Areas	Yes	Yes	
12	156.600	156.600	S	Port Operations, Selected VTS Areas	Yes	Yes	
13	156.650	156.650	S	Inter-ship Navigation Safety (bridge-to-bridge), 1W with Power-up	Yes	No	③ 1W
14	156.700	156.700	S	Port Operations, Selected VTS Areas	Yes	Yes	
15	---	156.750	S	Environmental	------	------	② RX only
16	156.800	156.800	S	International Distress, Safety, and Calling	Yes	Yes	
17	156.850	156.850	S	State Controlled	Yes	Yes	① 1W only
18A	156.900	156.900	S	Commercial	Yes	Yes	
19A	156.950	156.950	S	Commercial	Yes	Yes	
20	157.000	161.600	D	Port Operations, Canadian Coast Guard	No	Yes	
20A	157.000	157.000	S	Port Operations	Yes	Yes	
21A	157.050	157.050	S	U.S. Government, Canadian Coast Guard	Yes	Yes	④
22A	157.100	157.100	S	Coast Guard Liaison	Yes	Yes	
23A	157.150	157.150	S	U.S. Government, Coast Guard	Yes	Yes	④
24	157.200	161.800	D	Public Correspondence, Marine operator	No	Yes	
25	157.250	161.850	D	Public Correspondence, Marine operator	No	Yes	
26	157.300	161.900	D	Public Correspondence, Marine operator	No	Yes	
27	157.350	161.950	D	Public Correspondence, Marine operator	No	Yes	
28	157.400	162.000	D	Public Correspondence, Marine operator	No	Yes	
61A	156.075	156.075	S	U.S. Government, Canadian Coast Guard	Yes	Yes	④
63A	156.175	156.175	S	Port Operations, VTS in Selected Areas	Yes	Yes	
64A	156.225	156.225	S	U.S. Government, Canadian Commercial Fishing	Yes	Yes	④
65A	156.275	156.275	S	Port Operations	Yes	Yes	
66A	156.325	156.325	S	Port Operations	Yes	Yes	
67	156.375	156.375	S	Commercial, bridge-to-bridge, 1W with Power-up	Yes	No	③ 1W

68	156.425	156.425	S	Boat Operations, Recreational	Yes	No	
69	156.475	156.475	S	Boat Operations, Recreational	Yes	Yes	
70	156.525	156.525		Digital Selective Calling - DSC	------	------	⑥
71	156.575	156.575	S	Boat Operations, Recreational	Yes	Yes	
72	156.625	156.625	S	Boat Operations, Recreational	Yes	No	
73	156.675	156.675	S	Port Operations	Yes	Yes	
74	156.725	156.725	S	Port Operations	Yes	Yes	
77	156.875	156.875	S	Port Operations	Yes	Yes	① 1W only
78A	156.925	156.925	S	Boat Operations, Recreational	Yes	No	
79A	156.975	156.975	S	Commercial	Yes	Yes	
80A	157.025	157.025	S	Commercial	Yes	Yes	
81A	157.075	157.075	S	U.S. Government, Environmental Protection Agency Operations	Yes	Yes	④
82A	157.125	157.125	S	U.S. Government, Canadian Coast Guard	Yes	Yes	④
83A	157.175	157.175	S	U.S. Government, Canadian Coast Guard	Yes	Yes	④
84	157.225	161.825	D	Public Correspondence, Marine Operator	No	Yes	
85	157.275	161.875	D	Public Correspondence, Marine Operator	No	Yes	
86	157.325	161.925	D	Public Correspondence, Marine Operator	No	Yes	
87	157.375	161.975	D	Public Correspondence, Marine Operator	No	Yes	
88	157.425	162.025	D	Public Correspondence, Marine Operator	No	Yes	
88A	157.425	157.425	S	Commercial, Inter-ship Only	Yes	No	

Special Notes on USA Channel Usage

①. LOW POWER (1 W) only.

②. Receive Only.

③. LOW POWER (1 W) initially. Override to HIGH POWER by holding down H/L key before transmitting. Used normally in bridge-to-bridge communications.

④. Lightly shaded simplex channels 03A, 21A, 23A, 61A, 64A, 81A, 82A, and 83A cannot be lawfully used in U.S. waters unless special authorization is obtained from the U.S. Coast Guard. Not for use by the general public.

⑤. The letter "A" illuminated by the channel number indicates the USA channel is simplex.

This same channel is always duplex when selecting International. There is no "A" reference for International channels. The letter "B" is only used for some Canadian "Receive only" channels.

⑥. Channel 70 is designated for use exclusively for Digital Selective Calling (DSC), such as Distress, Safety, and Ship Calls. No voice communication is allowed on CH70. This channel is only available on DSC enabled radios.

KEY: S = Simplex operating channel; D = Duplex operating channel.

CANADA Channel Chart

CH	TX (MHz)	RX (MHz)	MODE	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	REMARK
01	*156.050*	*160.650*	*D*	Public Correspondence	No	Yes	
02	*156.100*	*160.700*	*D*	Public Correspondence	No	Yes	
03	*156.150*	*160.750*	*D*	Public Correspondence	No	Yes	
04A	156.200	156.200	S	Canadian Coast Guard, SAR	Yes	Yes	
05A	156.250	156.250	S	Port Operations, VTS in Selected Areas	Yes	Yes	
06	156.300	156.300	S	Inter-ship Safety	Yes	No	
07A	156.350	156.350	S	Commercial	Yes	Yes	
08	156.400	156.400	S	Commercial (inter-ship only)	Yes	No	
09	156.450	156.450	S	Recreational Calling Channel	Yes	Yes	
10	156.500	156.500	S	Commercial	Yes	Yes	
11	156.550	156.550	S	Commercial, VTS in Selected Areas	Yes	Yes	
12	156.600	156.600	S	Port Operations, VTS in Selected Areas	Yes	Yes	
13	156.650	156.650	S	Inter-ship Navigation Safety (bridge-to bridge) 1W with power-up	Yes	No	③ 1W
14	156.700	156.700	S	Port Operations, VTS in Selected Areas	Yes	Yes	
15	156.750	156.750	S	Commercial	Yes	Yes	① 1W only
16	156.800	156.800	S	International Distress, Safety, and Calling	Yes	Yes	
17	156.850	156.850	S	State Controlled	Yes	Yes	① 1W only
18A	156.900	156.900	S	Commercial	Yes	Yes	
19A	156.950	156.950	S	Canadian Coast Guard	Yes	Yes	
20	*157.000*	*161.600*	*D*	Canadian Coast Guard	No	Yes	① 1W only
21	*157.050*	*161.650*	*D*	Port Operations	No	Yes	
21A	157.050	157.050	S	U.S. Government, Canadian Coast Guard	Yes	Yes	
21B	---	161.650	S	Port Operations	------	------	② RX only
22A	157.100	157.100	S	Canadian Coast Guard Liaison	Yes	Yes	
23	*157.150*	*161.750*	*D*	Public Correspondence	No	Yes	
24	*157.200*	*161.800*	*D*	Public Correspondence	No	Yes	
25	*157.250*	*161.850*	*D*	Public Correspondence	No	Yes	
25B	---	161.850	S	Public Correspondence	------	------	② RX only
26	*157.300*	*161.900*	*D*	Public Correspondence	No	Yes	
27	*157.350*	*161.950*	*D*	Public Correspondence	No	Yes	
28	*157.400*	*162.000*	*D*	Public Correspondence	No	Yes	
28B	---	162.000	S	Public Correspondence	------	------	② RX only
60	*156.025*	*160.625*	*D*	Public Correspondence	No	Yes	
61A	156.075	156.075	S	U.S. Government, Canadian Coast Guard	Yes	Yes	④
62A	156.125	156.125	S	Canadian Coast Guard	Yes	Yes	

64	*156.225*	*160.825*	*D*	Public Correspondence, Duplex	No	Yes	
64A	156.225	156.225	S	U.S. Government, Canadian Commercial Fishing	Yes	Yes	④
65A	156.275	156.275	S	Port Operations	Yes	Yes	
66A	156.325	156.325	S	Port Operations	Yes	Yes	① 1W only
67	156.375	156.375	S	Commercial, SAR	Yes	No	
68	156.425	156.425	S	Boat Operations, Recreational	Yes	No	
69	156.475	156.475	S	Commercial Fishing Only	Yes	Yes	
70	156.525	156.525		Digital Selective Calling - DSC	------	------	⑥
71	156.575	156.575	S	Boat Operations, Recreational	Yes	Yes	
72	156.625	156.625	S	Inter-ship	Yes	No	
73	156.675	156.675	S	Commercial Fishing Only	Yes	Yes	
74	156.725	156.725	S	Commercial Fishing Only	Yes	Yes	
77	156.875	156.875	S	Port Operations	Yes	Yes	① 1W only
78A	156.925	156.925	S	Boat Operations, Recreational	Yes	No	
79A	156.975	156.975	S	Commercial	Yes	Yes	
80A	157.025	157.025	S	Commercial	Yes	Yes	
81A	157.075	157.075	S	U.S. Government Operations	Yes	Yes	④
82A	157.125	157.125	S	U.S. Government, Canadian Coast Guard	Yes	Yes	④
83	*157.175*	*161.775*	*D*	Canadian Coast Guard	Yes	Yes	
83A	157.175	157.175	S	U.S. Government, Canadian Coast Guard	Yes	Yes	④
83B	---	161.775	S	Canadian Coast Guard, RX Only	------	------	② RX only
84	*157.225*	*161.825*	*D*	Public Correspondence, Marine Operator	No	Yes	
85	*157.275*	*161.875*	*D*	Public Correspondence, Marine Operator	No	Yes	
86	*157.325*	*161.925*	*D*	Public Correspondence, Marine Operator	No	Yes	
87	*157.375*	*161.975*	*D*	Public Correspondence, Marine Operator	No	Yes	
88	*157.425*	*162.025*	*D*	Public Correspondence, Marine Operator	No	Yes	

Special Notes on Canada Channel Usage

①. LOW POWER (1 W) only.

②. Receive (RX) Only.

③. LOW POWER (1 W) initially. Override to HIGH POWER by holding down H/L key before transmitting. Used normally in bridge-to-bridge communications.

④. Lightly shaded simplex channels 21A, 23A, 61A, 64A, 81A, 82A, and 83A cannot be lawfully used in Canada waters unless special authorization is obtained from the Canadian Coast Guard. Not for use by the general public.

⑤. The letter "A" illuminated by the channel number indicates the Canada channel is simplex. This same channel is always duplex when selecting International. There is no "A" reference for International channels. The letter "B" is only used for some Canadian "Receive only" channels.

⑥. Channel 70 is designated for use exclusively for Digital Selective Calling (DSC), such as Distress, Safety, and Ship Calls. No voice communication is allowed on CH70. This channel is only available on DSC enabled radios.

Note: The CANADA mode is not legal to use in U.S. waters.

KEY: S = Simplex operating channel; D = Duplex operating channel.

WEATHER Channels

CH	RX (MHz)	TRAFFIC TYPE	NAME	REMARK
WX01	162.550	NOAA Weather Channel	NOAA WX	RX only
WX02	162.400	NOAA Weather Channel	NOAA WX	RX only
WX03	162.475	NOAA Weather Channel	NOAA WX	RX only
WX04	162.425	NOAA Weather Channel	NOAA WX	RX only
WX05	162.450	NOAA Weather Channel	NOAA WX	RX only
WX06	162.500	NOAA Weather Channel	NOAA WX	RX only
WX07	162.525	NOAA Weather Channel	NOAA WX	RX only
WX08	161.650	CANADIAN Weather Channel	CANADA WX	RX only
WX09	161.775	CANADIAN Weather Channel	CANADA WX	RX only
WX10	163.275	NOAA Weather Channel	NOAA WX	RX only

NAVICO
FULL TWO-YEAR EAGLE VHF WARRANTY

"We," "our," or "us" refers to NAVICO, the manufacturer of this EAGLE VHF product. "You" or "your" refers to the first person who purchases this product as a consumer item for personal, family or household use.

We warrant this product against defects or malfunctions in materials and workmanship, and against failure to conform to this product's written specifications, all for two (2) years from the date of original purchase by you. Battery Packs and accessory items have a one (1) year warranty. WE MAKE NO OTHER EXPRESS WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER CONCERNING THIS PRODUCT. Your remedies under this warranty will be available so long as you can show in a reasonable manner that any defect or malfunction in materials or workmanship, or any non-conformity with the product's written specifications, occurred within two years from the date of your original purchase, which must be substantiated by a dated sales receipt or sales slip. Any such defect, malfunction, or non-conformity which occurs within two years from your original purchase date will either be repaired without charge or be replaced with a new product identical or reasonably equivalent to this product, at our option, within a reasonable time after our receipt of the product. If such defect, malfunction, or non-conformity remains after a reasonable number of attempts to repair by us, you may elect to obtain without charge a replacement of the product or a refund for the product. THIS REPAIR, OR REPLACEMENT OR REFUND (AS JUST DESCRIBED) IS THE EXCLUSIVE REMEDY AVAILABLE TO YOU AGAINST US FOR ANY DEFECT, MALFUNCTION, OR NON-CONFORMITY CONCERNING THE PRODUCT OR FOR ANY LOSS OR DAMAGE RESULTING FROM ANY OTHER CAUSE WHATSOEVER. WE WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANYONE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR OTHER INDIRECT DAMAGE OF ANY KIND.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty does NOT apply in the following circumstances: (1) when the product has been serviced or repaired by anyone other than us; (2) when the product has been connected, installed, combined, altered, adjusted, or handled in a manner other than according to the instructions furnished with the product; (3) when any serial number has been effaced, altered, or removed; or (4) when any defect, problem, loss, or damage has resulted from any accident, misuse, negligence, or carelessness, or from any failure to provide reasonable and necessary maintenance in accordance with the instructions of the owner's manual for the product.

We reserve the right to make changes or improvements in our products from time to time without incurring the obligation to install such improvements or changes on equipment or items previously manufactured.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

REMINDER: You must retain the sales slip or sales receipt proving the date of your original purchase in case warranty service is ever required.

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NAVICO

12000 E. SKELLY DRIVE, TULSA, OK 74128

(800) 324-1356

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We back your investment in quality products with quick, expert service and genuine Eagle replacement parts. If you're in the United States and you have technical, return or repair questions, please contact the Factory Customer Service Department. Before any product can be returned, you must call customer service to determine if a return is necessary. Many times, customer service can resolve your problem over the phone without sending your product to the factory. To call us, use the following toll-free number:

800-324-1354

8 a.m. to 5 p.m. Central Standard Time, M-F

Eagle Electronics may find it necessary to change or end our shipping policies, regulations, and special offers at any time. We reserve the right to do so without notice.

. . . in Canada:

If you're in Canada and you have technical, return or repair questions, please contact the Factory Customer Service Department. Before any product can be returned, you must call customer service to determine if a return is necessary. Many times, customer service can resolve your problem over the phone without sending your product to the factory. To call us, use the following toll-free number:

800-661-3983

905-629-1614 (not toll-free)

8 a.m. to 5 p.m. Eastern Standard Time, M-F

. . . outside Canada and the USA:

If you have technical, return or repair questions, contact the dealer in the country where you purchased your unit. To locate an Eagle dealer near you, visit our web site or consult your telephone directory for listings.

www.eaglesonar.com

Accessory Ordering Information for all countries

To order Eagle accessories such as power cables or transducers, please contact:

1) Your local marine dealer or consumer electronics store. Most quality dealers that handle marine electronic equipment or other consumer electronics should be able to assist you with these items.

   To locate an Eagle dealer near you visit our web site or consult your telephone directory for listings.

2) U.S. customers: LEI Extras Inc., PO Box 129, Catoosa, OK 74015-0129

   Call 1-800-324-0045 or visit our web site www.lei-extras.com.

3) Canadian customers can write:

   Lowrance/Eagle Canada, 919 Matheson Blvd. E. Mississauga, Ontario L4W2R7 or

   fax 905-629-3118.

Shipping Information

If it becomes necessary to send a product for repair or replacement, you must first receive a return authorization number from Customer Service. Products shipped without a return authorization will not be accepted. When shipping, were commend you do the following:

1. Please do not ship the knobs or mounting bracket with your unit.
2. If you are sending a check for repair, please place your check in an envelopeand tape it to the unit.
3. For proper testing, include a brief note with the product describing the problem. Be sure to include your name, return shipping address and a day time telephone number. An e-mail address is optional but useful.
4. Pack the unit in a suitable size box with packing material to prevent any damage during shipping.
5. Write the Return Authorization (RA) number on the outside of the box underneath your return address.
6. For your security, you may want to insure the package through your shipping courier. Eagle does not assume responsibility for goods lost or damaged in transit.

Notes:

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